ECZEMA AND PSORIASIS

LOCAL DISEASES OF THE SKIN,

OR ARE THEY

MANIFESTATIONS OF CONSTITUTIONAL DISORDERS?

BY

L. DUNCAN BULKLEY, A.M., M.D.,

PHYSICIAN TO THE SKIN DEPARTMENT, DEMILT DISPENSARY, NEW YORK, ETC.

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COLLINS, PRINTER,
705 Jayne Street.

ARE ECZEMA AND PSORIASIS LOCAL DISEASES OF THE SKIN, OR ARE THEY MANIFESTATIONS OF CONSTITUTIONAL DISORDERS?

The suggestion of a local pathology of diseases of the skin is of comparatively recent date, and stands in bold contrast to the older humoralistic doctrine, which ascribed all these diseases to a morbid entity, a *materies morbi*, seeking exit from the system, and whose escape is beneficial; and the positive demonstration within the present century of a local cause of several cutaneous maladies (as dermatitis, the parasitic affections, etc.) which had, for ages, been regarded as expressions of blood states, is an achievement of which modern medicine may justly be proud.

This discovery of a local origin of certain skin lesions, and the fact of the resemblance between some of the forms of dermatitis and the eruptions of impetigo, lichen, eczema, etc., have led some to claim, still further, that most, if not all, of the diseases affecting the skin are either the results of local external causes, or are local diseases originating in idiopathically deranged action of the elements of the skin; a view, the adoption of which has undoubtedly been promoted by a natural reaction from the too exclusive, humoral doctrines previously entertained.

It need hardly be said that in arguing a constitutional origin and nature of eczema and psoriasis, I do not desire at all to return to the older humoralistic doctrine of disease, but seek to keep entirely within the bounds of recent chemical physiology and pathology, while at the same time I by no means ignore the importance of local cell-action, as will appear later. Nor does the recognition of a constitutional nature of eczema and psoriasis, by any means necessitate a belief that it is dangerous to check or remove these diseases by local measures, for experience has proved the contrary; it does, however, demand an investigation of internal causes, and a removal, as far as possible, of systemic disorders, since thereby elements of disease are removed and the general system benefited, while the eczema and psoriasis are cured.

In the further presentation of the subject of the nature and origin of eczema and psoriasis, it will be advisable to separate the two diseases more or less; I will, therefore, in each instance speak first of eczema, and then make the application to psoriasis; because, although they resemble each other in many important particulars, and have many points of contact, their dissimilarities are such as to cause confusion if they are in every instance spoken of together.

The local pathology of eczema and psoriasis has rested largely on three grounds: first, on the results obtained in the local treatment of these and other diseases of the skin, especially in the larger hospitals in Europe, notably those in Vienna; second, upon microscopical researches in histology; and, third, as far as relates to eczema, on a clinical and micro-

scopic study of the artificial eruptions produced on the skin by irritating substances, idiopathically and experimentally. We will dispose of the last of these first.

Now, while there is as yet no absolute proof that the pathological process excited artificially in the skin differs essentially from that taking place in acute eczema, we need not conclude that eczema is of local origin because its eruption resembles artificial dermatitis. If we accept one artificial eruption as eczema, we must accept all as such, from the large blisters following cantharides, heat, and cold, to the discrete, pustular eruption caused by croton oil or tartar emetic, or the slight erythema of the mildest irritant. Moreover, many of these artificial eruptions resemble erysipelas even more than they do eczema, and yet there will be few who will hold that true erysipelas is a local disease of the skin; again, the eruptions of croton oil and tartar emetic resemble those of smallpox and syphilis, without this being any argument against the constitutional nature of these latter, while the eruptions produced by the insect in scabies and by lice are frequently confounded with eczema. These lesions are all purely local, there is simply a local response of the cells and capillaries of the over-stimulated part; they are all but forms and varieties of inflammation of the skin, and are properly termed dermatitis, and bear no more relation to eczema than does the inflammation of a sprained joint to true rheumatism. In a very small proportion of persons, such irritations may become the starting point of true eczema, but in them I believe that the elements of the eczematous diathesis may always be discovered. A demonstration of the essential difference between these artificial eruptions and eczema is shown by the fact that it is not uncommon to induce dermatitis, as by a blister, for the cure of chronic eczema, as also of psoriasis.

It is necessary, therefore, in the present study to remember the distinction between eczema and dermatitis, for undoubtedly much that has been treated for the former is but the latter, and of course no argument can be drawn from therapeutical results obtained in dermatitis as to the local nature of eczema. In regard to psoriasis also, we have to clearly exclude, not only the scaly syphiloderm, but also all syphilitic influence; true psoriasis, the lepra of Willan, has nothing to do with syphilis, not even in the way of a later hereditary transmission, as has been suggested, nor must it be in any way confounded with the dry, scaly forms of eczema, or with the true leprosy, the elephantiasis of the Greeks.

Before proceeding systematically to examine the several points regarding the local or constitutional natures of these diseases, let us consider, for a moment, the question of the possibility of a double origin of the diseases under consideration, whether they can own two natures, being sometimes local and sometimes constitutional. In regard to the skin lesions in the contagious exanthemata and syphilis, no question exists that their origin is solely and always due to the introduction of a poison, which acts through the system, and that the cutaneous manifestations are but one exhibition of their effect. Passing now to such general diseases as gout and rheumatism, whose etiology is more deeply hidden, we do not doubt that the local phenomena observed in each are always the result of the same constitutional condition, some of the earlier links in the chain of cause and effect being recognized in functional derangement of certain organs, and a consequent sub-oxidation or imperfect elaboration of the elements of food, and an absence of healthy disintegration of tissue; and

when we speak of cold or external injury as being the cause of gouty or rheumatic inflammatory action in a part, we understand readily that it is only intended to signify that it was the *exciting cause*, which determined that that particular spot should be affected, or that the disease should develop at that particular time. The same line of thought might be extended to other diseases, showing that it is irrational to deny the constitutional origin of a disease unless its local nature can be established in a manner answering every requirement, as is the case in the parasitic diseases of the skin; quite as impossible is it to exclude local causation, when the constitutional nature fails to account for every condition.

Great error has, therefore, been made, I believe, by those who look only or mainly at the local causes, and argue therefrom a local nature of eczema, they forgetting the established principles in general medicine in regard to predisposing and exciting causes of disease. This is verified by the fact of the difficulty of producing a true eczema artificially, at will, in a person not subject thereto either in self or family (if indeed it can ever be done), and the impossibility of inducing a psoriasis by any local means.

Our conclusions then, thus far, are that eczema and psoriasis cannot be both local and constitutional diseases, that is, either exclusively, according to the case; and that the eruptions resembling eczema, artificially produced, are either ordinary dermatitis, with a strong tendency to spontaneous recovery, or are true eczema in eczematous subjects, in whom the exciting cause, instead of occurring in the ordinary way, has been artificially supplied, just as a gouty person might, by measures voluntarily applied, induce a true gouty inflammation of a joint. As before stated, we know of no claim to the production of psoriasis by local measures alone.

In the present study of the question as to whether eczema and psoriasis are local diseases of the skin or manifestations of constitutional disorders, I propose to develop the following points:—

(1) The nature of the eruption in disorders of the skin which are recognized to be constitutional, as the contagious fevers, syphilis, etc., drawing a comparison between eczema and psoriasis and these affections, and showing their points of difference.

(2) The nature of local diseases of the skin.

(3) The microscopic anatomy of eczema and psoriasis, with a view of comparison with that of the local skin diseases on the one hand, and with that of the constitutional on the other.

(4) The clinical history of eczema and psoriasis, in so far as they bear on the question, the points considered being (*a*) age, (*b*) sex, (*c*) location of eruption, (*d*) relapses, (*e*) hereditary transmission, (*f*) gouty and rheumatic symptoms, (*g*) urinary disturbances, (*h*) bronchitis, etc.

(5) The clinical history of some local diseases, to show the differentiating elements between constitutional disorders and those believed to be local, as epithelioma, verruca, keloid, parasitic and mechanical diseases of the skin, etc.

(6) The effect of local treatment, and how far the success of local measures necessitates a belief in the purely local nature of the disease.

(7) The effect of constitutional treatment, and the internal and general measures of service in eczema and psoriasis, to show how far their effect proves that the diseases which they remove are constitutional.

(1) In comparing eczema and psoriasis to the acknowledged constitutional disorders affecting the skin, contagious fevers, syphilis, etc., we must not, of course, press the similarity too far. We find, however, certain resemblances, as in the symmetry of development of the lesions, for eczema, if uninfluenced by local causes, will, when carefully studied, be found to exhibit this almost as clearly as psoriasis, whose bilateral disposition is so striking; the peripheral mode of spreading of eczema resembles much that of erysipelas, and the scattered eruption of psoriasis corresponds much to the mode of development of other exanthematous diseases, including syphilis. Eczema also is not infrequently attended with fever, in its more acute and general forms, and on the full, recent development of psoriasis there is more or less of malaise and prostration, and probably fever. The characters of the lesions in eczema and psoriasis are not entirely unlike those of constitutional diseases, which are marked by, first, congestion; second, exudation; and, third, if these former have been sufficiently severe, desquamation. The lesions of eczema and psoriasis are also superficial, and rarely, if ever, do they leave cicatrices, when uncomplicated.

(2) In contrast with these stand the characteristics of local diseases of the skin, marked by their utter want of symmetry (unless accidental), their extension depending either on a recognized cause, or being unexplainable, as in keloid, epithelioma, etc.; local diseases very rarely affect the whole integument, or even large portions, unless ichthyosis, of whose true nature, however, we know very little, be granted as such. Local diseases, moreover, acknowledge no constitutional connections nor fever; while, finally, the congestive element of eczema and psoriasis stands in striking contrast to its absence in local diseases, except, of course, where it is called forth by local stimulation. I am well aware that many cases of eczema present a number of the features of local disease, and that psoriasis occasionally is seen quite localized; but this is the exception, whereas it is rare to find exceptions in regard to the local diseases exhibiting any constitutional features; and, as we have concluded that eczema and psoriasis cannot be at one time local and at another constitutional, the weight of evidence, in this comparison, is decidedly in favor of the latter.

(3) The study of the microscopic anatomy of eczema and psoriasis is as yet in its infancy, and throws but little light on the etiology of these diseases; but, for a comprehensive view of the subject, we will briefly recall the main points in their histology, which will be seen to favor the constitutional rather than the local nature of the affections. The first anatomical change in eczema (reasoning from what is observed in artificial eruptions) is capillary congestion, resulting in capillary stasis and exudation in the tissue of the skin, producing more or less œdema. In some instances, not rare with us, the process stops here, or is arrested by treatment, and we have only the erythematous state, followed by moderate desquamation, the result of the impaired nutrition of the outer layers of the skin, a state very similar to the epithelial shedding in scarlatina, erysipelas, or measles.

If the exudation is too great to allow of absorption, it seeks egress through the external layers of the skin, or becomes organized as chronic infiltration. Biesiadecki believes that the fluid of eczema gains exit through certain spindle-shaped cells, which lie between the round and polygonal cells of the rete, these becoming so altered as to convey the fluid, as through direct channels. When the outer surface is still intact,

the hard, horny epidermis resists further progress and a vesicle forms; when the epidermal layer has been dissolved off or ruptured, the fluid oozes from the surface. Charpy[1] gives a somewhat different account of the genesis of eczema; still regarding the beginning of the disease as being in the corium, and consisting in a congestion of the layer just beneath the papillæ, he believes that the exuded fluid is absorbed by the deeper cells of the rete, in the intervals between the papillæ; that these cells become engorged until they rupture, whereby alveoles are formed; and that the increase of these alveoles terminates in the production of vesicles, upon the rupture of which cul-de-sacs are formed, whose walls furnish the further secretion.

In chronic eczema, the exuded plasma has become organized, and is seen as cell infiltration of the corium; the papillæ are much enlarged; the lymphatics, both in the papillæ and corium, are increased in size and dilated (Neumann); the bloodvessels are sometimes obliterated (Rindfleisch); and even the deepest parts of the skin are involved.

The anatomical and other relations of eczema have suggested to some a likeness between this and catarrh of the mucous membranes, and it may be well here to consider for a moment the nature of the mucous affection called catarrh, in reference to the bearing of this resemblance upon the nature of the diseases now under consideration. First, it must be remembered that it is no more proper to call all inflammations of the mucous membranes catarrh, than it is to name all those of the external integument eczema, or even dermatitis; the term catarrh but signifies the exudative feature, and the word eczema implies much the same. We have already separated and clearly differentiated many diseases of the mucous membranes, and it is highly probable that future study will show that there are many very different processes included in what is yet called catarrh, and ultimately their nature and origin will, we suspect, be as clearly defined as are now those of cutaneous diseases, or, it is hoped, far more clearly. That this is true may be judged from our present knowledge; thus, we have simple intestinal catarrh caused by the direct irritation of indigestible substances, a mechanical affair corresponding to ordinary dermatitis; we have an incontrollable diarrhœa, or catarrh, from the irritation caused by the circulation of effete substances in renal disease; there is also a mechanical catarrh from portal congestion in cirrhosis; we have also gouty affections of the various mucous surfaces; likewise the catarrhal complications of measles, those of syphilitic origin, etc., and I have long believed that much of the ordinary bronchial catarrh was truly eczema of that surface. Therefore, in likening eczema to catarrh of the mucous membranes, we by no means simplify matters in regard to its local or constitutional nature. Moreover, the common observation of catarrhal affections following a chilling of the surface, does not indicate necessarily their local nature, due wholly to the cold, for we see great differences in the results produced, dependent evidently upon constitutional states, the congestion due to the action of cold on the integument being only the exciting cause.

We will now consider for a moment some views in regard to the local nature of eczema propounded by Dr. Tilbury Fox, in the Lettsomian Lectures for 1869 and 1870.[2] He suggests that the capillary congestion is a *consequence* of cell-activity, arguing that mere capillary excitement

[1] Annales de Dermatologie et de Syphiligraphie, t. iii. p. 100.
[2] Eczema, its Nature and Treatment; London, 1870.

cannot give rise to eczema, because otherwise the erythemata would constantly overstep their limits. The element of the influence of the nervous system is largely considered by Dr. Fox, who believes that this abnormal state of the cells may be in response to "perverted innervation," as suggested by Hebra some time since; but while Hebra limited the action of the nerve influence to the production of "congestion and other disturbances of the circulation," Fox considers its influence in inducing cell proliferation a very necessary point to be admitted in eczema. That the latter is very true is shown by alterations of tissue plainly following and due to nerve lesions, and the same might be expected from the distribution of the nerve fibres even to the cells of the rete and epidermis.

But while a step in advance is made in recognizing the direct agency of the cell elements of the skin in the production of eczema (and independent cell activity can be no longer denied, as is shown in leucocytes), and while the influence of the nervous system in the production of cell changes is acknowledged, there is no proof that this cell change is really primary in eczema and psoriasis, and independent of constitutional conditions, and that it exists as a local affair; and this view finds little support beyond theory. It is a field, however, in which research is needed, and may perhaps be carried on with advantage, namely, the microscopical investigation of the apparently healthy skin of markedly eczematous subjects, both before and after local disease, as also a study of its nervous relations, both clinically and histologically. Should repeated, careful, and well verified microscopic studies demonstrate cell change in the earliest erythematous stages of eczema, and possibly also in the elements of the skin of eczematous patients before or after disease, it would do much to enlighten what otherwise must remain uncertain, namely, the part that the diseased tissues take in eczema, how far they are primary and how far secondary. The skin is the most favorable, if not the only, portion of the body on which very early pathological changes can be observed and followed, and research in this line may throw light upon the pathological histology of other organs.

That independent cell-action has much to do with inflammatory and other changes in the skin, is evident from the results of mechanical and chemical irritation, where, as in the case of the ordinary blister, the intervention of any blood influence cannot be suggested with reason; and that the cells are under very direct control of the nervous system is also very plain from the lesions in zoster, elephantiasis Græcorum, those occurring after nerve injuries, etc.; here the cells which under normal nerve control absorb just enough nutriment to maintain their proper relations, under perverted nerve control take on morbid action. Anatomical studies of the nerve trunks and branches in eczema might perhaps assist in our knowledge of its nature.

Psoriasis has been less studied microscopically than eczema, and little or nothing has yet been published of its genesis. The most striking histological changes in sections from older patches, as is known, consist in a great papillary enlargement, with thickening of the rete Malpighii to a corresponding extent, or nearly so. The papillæ are crowded with new cells, disposed mostly about the bloodvessels, with some infiltration of the corium; but the infiltration is not nearly as extensive as in chronic eczema, as might be judged from the clinical appearances.

Wertheim, from a microscopical study of psoriasis, concluded that the patches were due to some peculiar change in the capillaries of a circumscribed spot. Neumann considers that what Wertheim thought were

enlarged and blocked-up capillaries were cell groups around them, but offers no suggestion as to the mode of origin of the patches. By the kindness of my friend Dr. A. R. Robinson, of New York City, I have had the opportunity of examining microscopically some sections from psoriasis, which confirm Wertheim's views, and throw some light on the pathological histology of this disease. The earliest specimen was taken from a papule of psoriasis but two weeks old, in which there had been but little scaling. The bloodvessels in the papillæ were very distinctly seen to be greatly enlarged, and in some places appeared to approach the surface of the epidermis very closely; in quite a number of places the bloodvessels had ruptured, and microscopic ecchymoses were plainly visible. In specimens from rather older patches the bloodvessels showed very distinct budding processes, and some of the vessels appeared completely blocked up; there was little or none of the new deposit of cells described by Neumann, and there was no possibility of mistaking the enlarged bloodvessels for cell heaps around them.

It will be thus seen that the microscopic changes in eczema and psoriasis do not differ so very much from those observed microscopically in some other chronic skin diseases, and that histology contributes but little to show the local nature of these diseases, except so far as relates to the studies of Wertheim, further verified by those of Dr. Robinson; and yet here no one can show that even those changes in the bloodvessels are primary. Fox, however, believes that psoriasis "consists primarily and essentially in a misbehavior of the cell-elements themselves—a perversion of the ordinary cell-life of the epidermis—a true tissue disease, in which the trophic nerves probably play the chief part," but, unfortunately, gives no reasons for his interesting supposition.

While this latter view finds little or no support in anything that has yet been reported of the pathological histology of psoriasis, there is a very slight foundation for it in a certain resemblance which can be made out between psoriasis and a disease of well-recognized local nature, namely, epithelioma, to which we would venture to devote a few words.

The elements which have suggested the comparison between the two diseases are: a similarity in some of their clinical features and modes of development, their anatomical disposition, the transformation of patches on the tongue, called psoriatic, into epithelioma, the asserted family relations of the two affections, and the occurrence of epitheliomatous growths on the faces of young persons affected with psoriasis. In regard to a similarity in their mode of development, the increase in both is by peripheral extension, to the extent often of forming a ring, with healing within. Anatomically, epithelioma is an outgrowth, or rather an ingrowth of epithelial elements, whether the more external ones of the skin or those lining glands; we have, as yet, no studies with which I am acquainted to prove it, but the true pathology of psoriasis may be an epithelial hyperplasy of somewhat similar nature, and the lengthened papillæ seen in it may be the result of the ingrowth of the rete. We have the same shedding of the outer epithelial layers in psoriasis as in epithelioma; on scraping both, by no means forcibly, not only are the outer dried layers removed, but the softer and more succulent portion next above the papillæ is also separated, and we have in both the bleeding, familiar to all. The presence of the fibrous papillæ in psoriasis prevents further progress in the scraping, or we might induce a destruction similar to that in epithelioma.

The only real histological support I have to offer to sustain this

theory of the ingrowth of the epithelial layer in psoriasis, other than the well-known increase of the inter-papillary portion of the rete, is found in some of Dr. Robinson's sections, in which, in addition to the capillary change already alluded to, the sheaths of all the hairs showed outgrowths at their lower portions similar to those which have been observed in lichen ruber.

The transformation of what has been called lingual and buccal psoriasis into true epithelioma is now proven beyond doubt; of the true nature of the former affection, and its relations to ordinary psoriasis, however, we have little reliable information; it is certainly rare to find these mouth lesions in psoriatic patients, and many who have them have never had ordinary cutaneous psoriasis, and it is highly questionable if there is the slightest relationship between them.

Gaskoin affirms very confidently the hereditary relations of psoriasis and epithelioma. I have occasionally found both diseases in the same families, in intelligent private patients, but have never been able to satisfy myself of any relationship; the cases, however, have been far too few, and the time which has elapsed since I first investigated the connection, far too short, to form any conclusions therefrom. I have recently treated a young man with well-marked psoriasis, who exhibited perfectly developed epithelioma in front of the left ear. I would suggest this relationship between psoriasis and epithelioma as a profitable field for research, clinically and microscopically. If a relationship can be established, the local nature of the former may be demonstrated; for the present, however, this is not proven, and the constitutional relations of this disease, as well as of eczema, are so abundant and conclusive that we must here grant them the weight of argument and fact.

(4) We will now turn to a consideration of the constitutional relations of eczema and psoriasis, as exhibited in their clinical history. In regard to the age at which they occur, eczema affects all, from the cradle to the grave; none are too young, none too old to suffer from it. This is more the character of constitutional than of local disease; cancerous affections seldom, if ever, are seen in the young; warts (of the ordinary variety) seldom in the old; keloid very generally in middle life, both extremes being spared. The vegetable parasitic diseases rarely occur in the old; whereas in them are found changes in the skin, and diseases therefrom, not seen in young life. Psoriasis may be also said to prevail at all ages, though less frequently very early or very late in life.

Eczema and psoriasis both occur about as frequently in the male as in the female. In location, eczema spares no part of the surface, and, I believe, may affect every portion of the mucous membrane as well, while its development is very commonly symmetrical; these features are true also of psoriasis, and are those of general and constitutional diseases rather than of those of local nature. The tendency to recurrence in the same parts might be claimed as a local feature, but, in regard to eczema, the same exciting cause may be present again and again; and it must be conceded that tissues are undoubtedly weakened by disease, and more likely to be affected the second time than sound tissues; this is observed in gout and rheumatism, as also in affections of the mucous membranes.

But relapses in eczema and psoriasis furnish more indications of a constitutional than of a local nature, for fresh attacks of eczema are very commonly found to follow a depression of vitality; and I believe that this is true of psoriasis far more commonly than is generally conceded. Moreover, these eruptions by no means occupy the same locations each

time. I have frequently observed that the spots of psoriasis fall almost if not quite as often on new tissue as on the sites of a former disease.

There is no doubt as to the hereditary character of eczema and psoriasis. Whether the heredity consists in any general, constitutional habit, or whether it is simply a transmitted tendency to tissue-change, cannot be shown at the present time; in favor of the latter may be cited the transmission of mental and physical characteristics, cancerous disease, and ichthyosis; as instances of the former, we have the inheritance of syphilis, gout, and rheumatism, and the history of the occurrence of gouty, bronchitic, hepatic, and urinary troubles in the family of eczematous and psoriatic patients, in such a way as to show a connection.

If the claim of an inherited, perverted tendency of tissue could be established in eczema and psoriasis, which tendency lies dormant until called into activity by some exciting cause, it would still fail to explain alone why a cause which is at one time inefficacious, will, on another occasion, even in a much less degree, be sufficient to produce the disease.

This brings us to the study of the gouty and rheumatic symptoms, the urinary disturbances, and the bronchitis of eczema and psoriasis. That patients with these affections are the frequent subjects of the systemic derangements connected with or tending toward gout and rheumatism, as well as to the complete manifestations of these diseases, is very certain; this observation is of ancient date, and is strikingly confirmed by recent science. It is not very uncommon to find attacks of gout alternating with those of eczema and psoriasis, and clinical study shows that various disorders which may properly be classed under the name of functional derangements of the liver are very common in the subjects of these two diseases of the skin.

These systemic disorders are shown in the urine, which undergoes functional derangement in a large proportion of the cases of eczema and psoriasis. In a recent contribution to and study of the subject by the writer,[1] the following conclusions were reached: "Eczemic patients seldom pass large amounts of urine, the tendency being to scanty secretion, almost always unnaturally acid, with a specific gravity averaging above normal. Free uric acid, the urates, and oxalate of lime, abound; sometimes oxaluria is very persistent. Albumen is rarely seen. The urea and uric acid are often below the normal standard, although they may be in excess when a large portion of the integument is affected; indican has been found in pathological quantities. When the specific gravity is high, it may be due to an increase in the sulphates. The chlorides are diminished. Psoriasis sometimes alternates with phosphatic urinary deposits in gouty subjects. The fixed salts are increased. The urine shows generally a hyper-acidity, with deposits of uric acid, urates, and oxalate of lime, the contrary being the exception. The specific gravity is liable to great and unaccountable variations."

It may be claimed that these urinary changes are observed in persons also with no cutaneous disease, and that therefore there is no connection between the two. I am not yet in a position to prove exactly what changes in the urine necessarily accompany eczema and psoriasis, but mention those that have been actually observed to show that patients with these diseases are not in the perfect health often claimed for them, and, although a casual examination will often fail to detect any disease other than that of the outer integument, I assert that searching investiga-

[1] Archives of Dermatology, October, 1875, p. 1.

tion will seldom fail to demonstrate elements of disordered health, very commonly shown in the condition of the urine. And as these are removed by appropriate remedies, the eczema and psoriasis improve, and *vice versâ*.

Not less striking, as indicative of the constitutional relations of eczema and psoriasis, is the occurrence of bronchitis and asthma, conjointly or alternately, in the patient, or in his immediate family; the truth of this is well attested by many writers.

The neurotic relations of eczema and psoriasis are also very interesting, and indicate other than a local nature of the disease; but the subject is yet too recent and unsettled for more than a mention in this place: I have elsewhere[1] given a fuller study of it. Recorded facts, based on large clinical experience, are needed greatly for the full and satisfactory determination of many of the points here alluded to.

(5) Enough has perhaps already been said in reference to the clinical history of local diseases, but a few points may be again alluded to with advantage in connection with what has just preceded. No constitutional relations have been recognized, to my knowledge, in any of these; constitutional remedies have no effect upon them. Their unsymmetrical character and irregular development have been mentioned, as also their removal solely by local measures. Local diseases of the skin of external origin are represented by the parasitic affections and dermatitis; idiopathic misbehavior of cells is exemplified by epithelioma and keloid; herpes zoster may be taken as a type of an acute local disease of the skin dependent on nerve elements; and ichthyosis of a chronic, local disturbance of general cell nutrition; the clinical history of each of these is familiar to all, and quite different from those of eczema and psoriasis.

Hebra, as is well known, has always stood as the representative of local pathology and therapeutics, and it may not be uninteresting or unprofitable to refer briefly to his present views in regard to the purely local nature of eczema, as found in the recent, second edition of his work.[2] That I may not be charged with misunderstanding him, I will quote a section from the close of the long chapter on the Etiology of Eczema (p. 462). After repeating what had been said in the former edition to show the local nature of the disease, and after stating his disbelief in any diathetic cause, he says: "While, therefore, we cannot accede to any peculiar or proper dyscrasia, we must, on the other hand, confirm the fact that certain conditions of the human organism, partly transient, partly permanent, at one time increase, and at another time diminish its susceptibility to agencies producing eczema. These physical conditions are called a disposition, or predisposing cause, *momentum disponens*, to distinguish them from the direct exciting cause of irritating agencies, and we are obliged to recognize these elements in the etiology of eczema, because experience confirms it."

"For example, we see an eczema on the hands and forearms of a young girl who has been engaged in washing soiled linen, and we declare that the origin of the eczema is in the action of the lye, soap, hot water, and friction. Now, at the same time with this girl, there are many other females washing in the same lye, using the same soap, and living under the same circumstances, without acquiring eczema. Indeed, this

[1] Archives of Electrology and Neurology, November, 1874, and May, 1875. Reprinted by G. P. Putnam's Sons. New York, 1875.

[2] Lehrbuch der Hautkrankheiten, Zweite Aufl.; Erlangen, 1874.

very girl, who now has eczema, has been exposed to the same influences previously without becoming affected. What is the cause of her present susceptibility? A careful examination of her general condition will give the explanation. The girl who before was healthy, robust, and regular in her menses, has now lost her appetite, has become sluggish and languid, her appearance is pale and bloated, her menstruation is profuse; in a word, she has become chlorotic, and thereby eczematous. The remedies suitable for the chlorosis are now employed; the appetite and power of work return, the menses become regular, and the eczema disappears in spite of the continued influences of the agencies causing it. The same observation is made in reference to pregnant and nursing women; also in those suffering from chronic sexual disturbances. The latter must always be looked upon as favoring elements (a *momentum disponens*, or predisposing cause) which induce a *status minoris resistentiæ*, and allow an otherwise ordinary skin irritant to become an exciting cause, a *momentum excitans*."

After again claiming that we need no blood explanation of eczema, Hebra adds: "In order not to be misunderstood, we will, however, here again state that every eczema is not caused by a local irritation, but that it may be occasioned by diseases of the rest of the system."

Such clear and unqualified statements as to the constitutional nature and origin of eczema are unexpected from one so prominently known in connection with local pathology, and show that his opinions have latterly undergone considerable change. It must be remembered, however, that at the time of the first edition of Hebra's work, upon which his reputation as a local pathologist greatly rests, many of the crude theories of the past had not yet been completely overthrown; and also that within his experience many diseases which had formerly been considered constitutional, had been demonstrated to be purely local, as scabies, the vegetable parasitic diseases, plica polonica, etc., and that the success of local measures seemed to demonstrate to him that other affections were also local; he has, however, the candor to acknowledge his mistake.

(6) We come now to one of the most interesting and at the same time most disputed portions of our investigation, namely the relative effects of local and constitutional treatment as indicating the nature of eczema and psoriasis. Hebra and Neumann declare, in the most positive terms, that it is quite unnecessary to regard the constitutional relations of these diseases, except when they are striking, and those who have followed the Vienna School for any length of time can testify how completely this idea is carried out there. External remedies and measures are used there almost exclusively, it being the greatest exception to have any questions asked in regard to the general health; and internal medication, it may safely be asserted, is very rarely, if ever, employed in the hospital, in eczema and psoriasis, except by way of experiment; and yet these eruptions are removed in a very satisfactory manner. Does this, however, prove the local nature of the disease? In negation of this I need but suggest how the stiffness resulting from gouty and rheumatic inflammation is benefited by external counter-irritants and passive motion, while the origin of the serous inflammation and fibrous thickening is recognized as of constitutional origin. Syphilitic iritis may be subdued by atropine alone, and tubercular laryngitis receive great benefit from topical treatment; the ulcers of dysentery may be cured, and the discharge of leucorrhœa arrested, by local measures; and yet these diseases be manifestations of constitutional states.

But there is not the slightest influence exerted by local treatment in preventing the return of eczema and psoriasis, whereas we know that constitutional measures have considerable power to prevent relapses; this is, as is well known, less true of psoriasis than of eczema, but mainly, I believe, because of the neglect to carry out faithfully the proper measures for a sufficient length of time after the disappearance of the eruption. Again, in this country at least, local measures often fail to accomplish the desired end until constitutional measures are resorted to in addition. In considering the effect of local treatment as an argument for the local nature of eczema, it is well to bear in mind the distinction drawn early in this paper between dermatitis and eczema, for many cases treated as the latter disease are entirely local in character, the result of local irritants, possessing in themselves a strong tendency to heal when the irritating cause is removed and the inflamed surfaces protected, that is, are cases of dermatitis and not of eczema.

I believe true eczema and psoriasis to be constitutional states wherein ordinary irritants give rise to inflammatory changes in the skin, which form an important element of the disease, but which are no more its sole element than are the cutaneous phenomena of the exanthemata, leprosy, syphilis, etc. I believe also that single attacks of eczema, and of psoriasis, too, correspond in nature very much to those of such diseases as gout and rheumatism, in which the local changes have a greater or less tendency to self-limitation, although the effects of the disease may long remain. That is, as arthritic, pulmonary, or cerebral symptoms appear to be the culmination of blood-processes which we know as gout and rheumatism, so eczema and psoriasis are directly dependent upon somewhat similar, although as yet little defined, blood changes, the acute symptoms corresponding to those of rheumatism and gout, while the chronic local alterations in the skin answer to the gouty concretions on and in the synovial membranes, and to the rheumatic thickening of the valves of the heart or around joints long inflamed; and, as in gout and rheumatism, there is a tendency for the attacks to recur again and again, the health in the mean time seeming to be perfect, so in eczema and psoriasis the local phenomena may be manifested from time to time, without any very apparent constitutional disorder between, while the *product* of the disease, the cell infiltration, remains.[1]

Now but little can be done to arrest the acute phenomena of eczema by local means, other than soothing applications, and it is very difficult to check a developing psoriasis by outward measures; but the *results* in both may be removed by local stimulants, which induce cell activity within the bounds of health. I speak more especially of these diseases in adults, for infantile eczema exhibits more plainly the constitutional elements whose great activity renders local measures often very futile.

While, therefore, the arguments are against eczema and psoriasis *being* local diseases of the skin, it must be admitted that they *become* local diseases in their skin lesions, and as such may be amenable very largely to local treatment, as far as relates to the single manifestations of disease at any one time.

(7) Whatever may be the views of those who hold exclusively to the value of local treatment in eczema and psoriasis, no doubt whatever exists in my own mind, nor, as far as I can learn, in the mind of a large

[1] "The Management of Eczema," by L. Duncan Bulkley, M.D., Trans. Am. Med. Association, vol. xxv. 1874, p. 121. Reprinted. G. P. Putnam's Sons, 1875.

share of those who make skin affections a special study, that constitutional measures are both valuable and necessary to the cure of most cases of these diseases. And by constitutional treatment I do not mean arsenic alone, nor any one specific remedy, for truth demands the acknowledgment that specifics for diseases do not exist, unless it be with the two exceptions of mercury for syphilis and quinine for malaria. But by constitutional treatment I understand the employment of every measure for the cure of disease, which cannot truly be called local treatment.

Now my experience has been, as already stated, that most patients with eczema and psoriasis present anomalies in their urinary secretion, and in proportion as this exists have I found the congestive feature of the disease to be marked, and in the same proportion have I seen the diseases benefited by cathartic and diuretic remedies. A not inconsiderable number of patients with eczema and psoriasis are habitually constipated, and the diseases, with me, resist all local and other measures until this is remedied. Many are what is called bilious, and nitric acid will do more to cure their skin diseases than any other means. It is not at all uncommon, in this country, to find eczema and psoriasis in those who are extremely nervous, and cases are constantly met with where enormous mental strain is keeping up the disease; here the constitutional measure of rest, with perhaps change of scene and climate, is imperatively demanded, together with nerve tonics of various kinds. In dispensary practice in this city a good portion of all eczematous and psoriatic patients exhibit the features known as strumous or scrofulous, and are more quickly and surely cured by the internal administration of cod-liver oil than by any other remedy, local medication either being used not at all, or playing a very unimportant part. Arsenic also is capable of entirely curing, that is, removing, eczema, and that tolerably quickly, *without the use of any local measures whatever*, as I have repeatedly witnessed and elsewhere shown,[1] and its power over psoriasis is acknowledged on all sides. Iron is indicated in a large share of our eczematous and psoriatic patients; others require such remedies as rhubarb and soda; and the vegetable tonics play an important rôle in our therapeusis.

Diet, hygiene, exercise, and bathing, are all essential in my opinion to a successful management of these diseases. I claim that patients who have been thus carefully managed not only recover from the individual attack under proper local measures much more quickly than when the latter alone are used, but that they most certainly are in a better condition to resist future attacks, and that relapses are far less frequent, and I claim that the clinical history of the patients shows this. The action of these measures is not local, is not directed to the skin; but by virtue of the influence exerted on the general economy, as well as on the affected tissues, they cure the diseases in question.

In this study I have not referred much to the opinions of writers on dermatology, because, with the exceptions which I have mentioned from time to time, the opinion is very general that eczema and psoriasis are constitutional disorders. By a constitutional disorder, as we now understand it, is not meant the existence of some peccant material or *materies morbi*, which the system endeavors to throw off; nor that the discharge

[1] Trans. Amer. Med. Assoc., vol. xxvii. 1876. p. 163; New York Med. Journ. Aug. 1876, p. 113; Reprint, "The Use and Value of Arsenic in the Treatment of Diseases of the Skin." New York, Appleton, 1876.

is in any way curative or beneficial to the system; nor that the removal of the cutaneous lesion can in any way or manner act prejudicially to the economy; but the expression, constitutional disorder, is understood in the same sense in which it can be applied to gout, rheumatism, chlorosis, leucocythæmia, scorbutus, etc. And it is used here in especial distinction from local disease—that is a pure and specific disease of the tissues of the skin itself, singly and alone—as the artificial eruptions, parasitic diseases, epithelioma, verruca, keloid, etc.

There are several elements of causation in infantile eczema which have not been touched on, partly because of want of time, and partly because observations are wanting as to their true effects in producing the disease. One is the occurrence of the exanthematous diseases; it has been observed by some that eczema followed soon upon these affections, and it has been thought that they left such an impression upon the cell-elements of the skin that these readily took on eczematous action, simply on the application of an external irritation. Now if they can have any causative effect in eczema, the exanthemata can also induce psoriasis, lichen, urticaria, etc. Whether, however, they act in any other way than as depressants, leaving the body and tissues in an enfeebled state, I cannot tell; it will be remembered that Mr. Hutchinson has recently claimed that the later lesions of syphilis are but the remains of the earlier, general, dermal phenomena. If the exanthemata had any real power to impress any tissue change on the skin, which should afterwards result in eczema, we could hardly conceive why this should happen in such a small proportion of cases; for, of the multitudes who go through these inflammatory skin affections of childhood, but few suffer from eczema afterwards; while many children have eczema long before undergoing one of the exanthemata. We cannot therefore accept any argument as to the local nature of these diseases drawn from the previous occurrence of the exanthemata.

Vaccination is another process which we not rarely see followed by eczema; do we suppose here a local cause (other than exciting), that is, does it induce any change in the cells of the skin whereby they are more prone to eczema? I believe not, because of the very general adoption of vaccination, and the very few cases of eczema immediately following; I need not in this presence state that there can, of course, be no blood-poisoning, no contagion of eczema by means of the lymph, even when taken from a vaccinifer suffering from eczema; we know of no transmission by this means except that of syphilis, unless it be a tendency to carbuncular inflammation, of which I have observed a number of cases, and which my friend, Dr. Frank P. Foster, tells me he occasionally meets with. The only agency which vaccination can exert in calling forth an eczema, is, I believe, simply that of a local irritant, acting in the same way as a burn or other excessive stimulation. I have seen psoriasis of a very marked character develop for the first time immediately after vaccination, but the event must of course be looked upon as a coincidence, or else we must conceive that the local tendency to cell-proliferation has furnished the starting-point, the fire which kindled the train all ready for ignition. The rarity of the observation of psoriasis immediately following vaccination shows the correctness of this view.

Equally useless and uncertain is it, in my judgment, to look upon dentition in any other light than as an exciting cause, not acting locally, it is true, but probably as a reflex irritation, and as such I believe it to be of more or less importance; but in view of the small proportion of teething

infants who have eczema, and the infinitely smaller ratio of those with psoriasis, other elements must be looked to for the real etiology of these diseases; this is shown also by the frequent occurrence of these diseases in those of older years, and before the teeth begin to appear.

Erroneous diet, however, I consider as an all-important and undoubtedly prolific cause of eczema in infants, a point which we cannot here enter upon, except to mention it as of weight in favor of the constitutional origin of the diseases under consideration.

That local causes are of very great importance in the etiology of eczema in infants, as well as in adults, is beyond doubt; such causes are the use of irritating diaper-linen, harsh bandages, too frequent and careless washing and drying, incautious exposure of the face to cold air, hot caps on the head, harsh attempts to remove the dried sebaceous matter from the scalp, etc.; but that the disease very frequently does not get well upon the removal of these irritants, and under local measures alone, is certain, and that a proper study and direction of constitutional measures will cure the disease, if proper local treatment is employed, is equally sure.

Psoriasis is observed so rarely in those of very tender years, that no conclusions can be formed respecting it; if indeed the disease in infants differs in any way from that of adults.

I have said nothing yet in regard to the relations supposed to exist between scrofula and eczema and psoriasis. This is a very difficult subject and one which needs clearing up, there being thus far no sufficient data upon which to base a scientific investigation of the matter; for, although many authorities state that there is a connection, the evidence of any causal effect is far from being established. Neumann states that among 308 eczematous children he found but 30 who were rachitic and 70 who were scrofulous, while among more than 3000 scrofulous and rachitic children he found none with eczema.

For the proper study of this relation, we need to have the true position of scrofula more clearly defined than at present, its causes and symptoms more sharply drawn, and further statistical details, such as those of Neumann, recorded. That quite a share of children with eczema, among the poor, exhibit some of the features called scrofulous, that is pale, pasty skins, light hair, eyes, and complexion, enlarged glands, ophthalmia, otorrhœa, etc., is not to be questioned, but, that this state has any special effect in causing eczema, other than its depressing power, cannot now be proved. It is certain, however, that eczema and psoriasis exhibit somewhat different features when occurring in these subjects; the tendency to pus formation is evident in the secretion from eczema, and in psoriasis the scrofulous state is shown by a thickened and more yellowish condition of the scales.

Although less commonly thought of, there is probably more connection between what is called a scrofulous state and psoriasis than there is between the former and eczema. Gaskoin thinks that phthisis plays an important part in preparing the way for psoriasis, and I have been rather inclined to think the same; investigations are, however, needed here.

The results of this inquiry as to the local or constitutional nature of eczema and psoriasis may be summed up in the following propositions:—

I. Eczema and psoriasis are diseases *sui generis*, and are not to be confounded in any way with other states; as, the former with artificial

dermatitis, and the latter with the eruptions of syphilis, scaly eczema, or leprosy.

II. Eczema and psoriasis cannot own a double, independent causation, or nature, at one time local, and at another constitutional; but, with other diseases, they may have a twofold cause, namely, a predisposing and an exciting.

III. Eczema and psoriasis in many of their features resemble the accepted constitutional diseases more than they do those recognized as local.

IV. The skin lesions of eczema and psoriasis, as also their microscopical characters, more nearly resemble those of the general and constitutional diseases affecting the skin, than they do those of purely local diseases.

V. Eczema is very properly likened to catarrh of the mucous membranes, but no argument as to its local nature can be drawn therefrom; it is very probable that some proportion of the mucous attacks called catarrh are eczema and psoriasis of this tissue.

VI. Both eczema and psoriasis resemble gout and rheumatism, in certain respects, and are dependent upon a somewhat similar, although as yet unknown, constitutional cause; much of the skin lesions, as ordinarily observed, must be looked upon as the *local results* of the diseases, removable by local means.

VII. There as yet exists no microscopical or physiological proof that eczema and psoriasis are the sole result of local cell disorder, either congenital, acquired, or due to perverted nerve action; although from our present knowledge of independent cell activity, and from the intimate connection between nerve elements and the cells composing the skin, it is highly probable that cell action and nerve influence are important factors in eczema and psoriasis.

VIII. Local causes play a very important part in the etiology of eczema; they are probably inoperative in psoriasis.

IX. Certain relationships between psoriasis and epithelioma have been claimed, which require much further investigation; at present they are not established, and are no proof of the local nature of psoriasis.

X. The clinical history of eczema and psoriasis furnishes much evidence of constitutional relations, mainly with states allied to gout and rheumatism; no direct causal connection has yet been demonstrated between the scrofulous state and eczema and psoriasis.

XI. Local treatment alone is often insufficient to remove the lesions of eczema and psoriasis, and cannot prevent or delay relapses; its success does not demonstrate the local nature of these affections.

XII. Constitutional treatment, alone and singly, can cure many cases of eczema and psoriasis, and prevent or delay relapses in a certain proportion of cases; by constitutional treatment is intended every agency not properly placed among local measures.

XIII. The total weight of evidence and argument is that eczema and psoriasis are both manifestations of constitutional disorders, and not local diseases of the skin.

In closing this paper, already far exceeding the limits designed, the writer would beg indulgence for its imperfections, of which he is fully aware; some of these have been necessitated by the vastness of the subject and the small amount of space afforded in which to consider

them. Many points which had been elaborated much more, have been necessarily condensed or omitted, and many fields, an investigation of which would have further developed the subject, have been left entirely untouched; many have been barely alluded to, because of the scantiness of reliable data. It is to be hoped that the investigation will be pursued still further, for the etiology and pathology of these diseases may be considered as at the foundation of all dermatology, and the importance of some of the questions here raised can scarcely be overestimated.

The following are some of the points requiring further study: the mode of the formation of vesicles in eczema, and the way in which the exuded liquid reaches the surface; the state of the skin, histologically, very early in eczema and psoriasis, as also after the disappearance of the disease, and likewise of the skin of those subject to eczema and psoriasis in places where no disease has yet appeared; the nerve relations of these diseases clinically, and the state of the nerves microscopically; the condition of the bloodvessels very early and very late in these diseases, especially in regard to Wertheim's view of a capillary change being the cause of psoriasis; the resemblance between psoriasis and epithelioma, clinically and microscopically, as regards also the development of what are called psoriatic lesions of the mouth into epithelioma, and the true nature of the former and their relation to psoriasis, if any; also the possibility of the origin of psoriasis in hyperplasy of the rete downwards between the papillæ; the urinary relations of eczema and psoriasis, also their heredity, as relates to the diseases themselves, and also to other constitutional manifestations; the asserted connection between the eruptions of the exanthemata and eczema, especially in infants; the influence of dentition in the production of eczema; the effect of vaccination; and, finally, the relations of scrofula to eczema and psoriasis.